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ABSTRACT

The Center for Gifted and Talented Native Hawaiian Children has been developing identification methods congruent with Hawaiian values and traditional talent areas and has increased the number of native Hawaiian students identified and provided with enrichment services. This report describes efforts to combine self-report data and performance-based assessment to identify students. The Center offers a Saturday enrichment program open to all native Hawaiians. To identify students for participation in other Center programs, especially the summer program, performance-based assessment is conducted during the Saturday enrichment program. The assessment process involves guided observation using worksheets and assessment summaries, training college students in observation techniques, and encouraging instructors to design enrichment activities that allow students to demonstrate their abilities. Initial findings indicate a relationship between students' self-reported interests and abilities but unacceptably low reliabilities of observers and failure to predict student achievement in the summer program. (Contains 15 references.) (DB)

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Performance-based Identification of Culturally Diverse Gifted Students: A Pilot Study

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Performance-based Identification of Culturally Diverse Gifted Students: A Pilot Study

Educators are concerned with the underrepresentation of culturally diverse groups in gifted and talented programs (Frasier, 1987; Gallagher & Kinney, 1874; Patton, Prillaman, & VanTassel-Baska, 1990). In Hawaii, 22% of the public school population is native Hawaiian (individuals whose ancestors lived in Hawaii prior to the arrival of Captain Cook in 1778); however, only 11% of those participating in state-sponsored gifted programs are native Hawaiian (State of Hawaii, Department of Education, 1988). The Center for Gifted and Talented Native Hawaiian Children has been developing identification methods which are congruent with Hawaiian values and traditional talent areas and have increased the number of native Hawaiian students being identified and receiving enrichment. In this paper, we describe our most recent efforts in combining self-report data and performance-based assessment to identify students for participation in enrichment programs. We ask the following: To what degree are students' self-reported interests and abilities related to their observed performance? What are the relationships among self-report, observed performance, and achievement? Which observed behaviors were the best predictors of success in the enrichment program?

Recently educators have challenged 'traditional' assessment narrowly defined as paper and pencil tests and begun examining 'authentic' assessment which involves performance of tasks and activities valued for their own worth and is consistent with constructivistic assumptions of learning (California Assessment Program Staff, 1989; Linn, Baker, & Dunbar, 1991; Shavelson, Baxter, & Pine, 1992; Stiggins, 1987; Wiggins, 1989). In gifted education, researchers and practitioners have advocated the use of multiple measures in order to identify and assess gifted learners (Clark, 1992; Renzulli, 1981). While in theory, multiple measures are used; in practice, entry to most gifted and talented programs is highly dependent upon high scores on achievement and/or intelligence tests (Richert, Alvino, & McDonnel, 1982). This practice may be a factor in the underrepresentation of culturally diverse students in gifted programs (Richert, 1987). In order to more validly assess students from other than the dominant culture, we believe that assessment should consist of familiar

and culturally relevant situations where procedures and materials are related to the students' social-cultural ecology (Miller-Jones, 1989). Authentic assessment in general and performance-based assessment in particular have the potential to contribute to the identification of gifted and talented culturally diverse students.

Since its inception in 1989, the Center has provided Super Enrichment Saturday programs to allow bright native Hawaiian students opportunities to discover and enrich their talents. These Saturday experiences are thematically developed and provide sessions in multiple talent areas. During the first two years, students obtained application packets which included general demographic information, specific questions related to highlighted talent areas, and two community/teacher recommendation forms. All applications were reviewed by Center staff who removed names and prepared the application files for screening committees. Then, specialized screening committees met, decided which applicants met the minimum qualifications of high interest and ability, assigned a number from 1, definitely admit, to 3, admit if space available, and rank ordered all those who met the minimum criteria. The Identification/Assessment coordinator determined how many students at each grade level would be accepted, reviewed screening committee recommendations from all committees, made final admission decisions, and invited those accepted to participate. Since the Saturdays were designed to be inclusive and allow many students opportunities to experience enrichment, most applicants who met the minimum criteria were admitted.

In addition to the Super Enrichment Saturday programs, the Center offers intensive summer programs. Initially, information from enrichment sessions was not considered in the identification and selection of summer program students. On the basis of evaluation data from two years of programs, changes were made during the 1991/92 school year to open Saturday participation to any native Hawaiian student on a first come, first serve basis. In addition to demographic data, applications contained interest and ability inventories which provided information used in assigning students to specific sessions. The interest and ability indicators were as follows:

We want to know about your interests. Please rank the following program areas. Use **1** as your first choice; **2** as your second choice; and **3** as your third choice.

____LEADERSHIP	____VISUAL ARTS (i. e., draw, paint)	____SCIENCE	____MATH
____PERFORMING ARTS (i. e., drama, dance, music)	____LANGUAGE ARTS (i. e., write, read, speak)	____PSYCHOMOTOR (i. e., sports)	

We want to know about your abilities too. Please circle five of the activities below that YOU CAN DO BEST.

PROBLEM SOLVING	SWIMMING	TAKING CHARGE	KICKING
DRAWING	WRITING POEMS	PAINTING	TELLING STORIES
EXPERIMENTING	COMPUTING	CALCULATING	EXPLORING
WRITING STORIES	DANCING	READING	SINGING
RUNNING	PERSUADING OTHERS	THROWING	SEEKING RESPONSIBILITY
MAKING DECISIONS	ACTING	USING COMPUTERS	BEING FUNNY
SPEAKING LANGUAGES	PLAYING NINTENDO	ORGANIZING	INVENTING

In order to identify students for participation in other Center programs, we created a performance-based assessment to be used during the enrichment sessions.

There are several key elements of this assessment process. First, observation worksheets and assessment summary sheets were developed and piloted in public school classes. The behaviors to be observed were adapted from those found in Tuttle, Becker, and Sousa (1988) and included asks questions/demonstrates curiosity, answers or poses solutions to problems, advanced vocabulary, concrete level of thinking, abstract level of thinking, knows a lot beyond what you would expect for this age, confident, active/ goal directed, interacts most with adult, interacts most with peers. The worksheet was designed to record both student and teacher activities (see Appendix A). Expanded descriptions of each characteristic in quick reference form were available on the back left side of the worksheet. In addition, there was space for observer comments. The assessment summary form contained rating scales for interest and ability in each session and open space for observers to detail strengths of each student (see Appendix B).

The second key element was the selection and training of observers. In collaboration with the Education Department of the University of Hawaii at Hilo, students enrolled in educational psychology were given an opportunity to received class credit for being observers. The Identification/Assessment coordinator and educational psychology instructor designed and conducted

training sessions which introduced the forms and provided simulation activities for observation practice and debriefing.

The third critical element was the content and structure of the Saturday session. In order for the assessment to be successful, session instructors had to provide opportunities for students to demonstrate their abilities. Therefore, instructors were provided with copies of the observation worksheet and assessment summary form and assistance in designing appropriate sessions. During the 1991/92 school year, the Center conducted two Super Enrichment Saturdays. One hundred sixty-eight native Hawaiian students attended Super Technology Saturday and 237 attended Super Creativity Saturday. In order to assess their performance, 30 educational psychology students observed from 5 to 10 students through three different sessions which each emphasized a different talent area. Students who received summary ratings of 4's or 5's on interest and ability in any one talent area (N=138) were invited to participate in a two week intensive program that integrated visual arts, performing arts, language arts, and math/science. Of those invited, 78 indicated they would attend and 70 students actually attended.

The summer program was interdisciplinary, focused on the Hawaiian theme of lokahi (harmony). The four program teachers were selected in language arts, performing arts, visual arts and math/science. Activities integrated leadership and Hawaiian culture. In addition, teachers emphasized student strengths and encouraged the growth of healthy self-concepts. Throughout the two week session, students participated in required and self-chosen activities in a variety of grade level and cross age groups.

The curriculum was designed using the Center model of talent enhancement, self esteem building, Hawaiian values, and parent/community involvement. Each day instruction focused upon a different subtopic related to lokahi in each of the four disciplines. Subtopics included personal lokahi, interdependence, patterns, and the Hawaiian environment. For example, during the focus on patterns students explored patterns in writing, movement, scientific study, and collage making. Patterns were presented from the viewpoints of authors, choreographers, biologists, and the graphic

designer. On the final day of the program, students participated in a hoike (show/exhibit) that demonstrated the concepts, skills, and projects completed during the session.

Preliminary Results

As we began examining the data, we felt like Charlie Brown as he and his friends critically analyzed the clouds on a perfect spring day. After his friends in great detail reported seeing a variety of mythical beasts, Charlie Brown decided not to tell them he saw a bunny and a horsy. We had hoped to report in great clarity the relationships between student self-reported interest and ability, performance as observed through avariety of talent areas, and achievement demonstrated in summer classes. However, for purposes of this paper only the data from the Super Creativity Saturday (N= 237) will be discussed. Of the 237 students who attended the creativity sessions, complete application and performance data were available for 225 students. Of these students, 43 attended the summer program and 24 had complete information on pre/post tests of program affective objectives and teacher ratings of interest and ability. In this preliminary analysis, we choose to explore the data using correlations (the bunnies and horsies) but as the data set is completed, we will also consider multivariate analysis (mythical beasts).

One of our first questions was, do students' self-reported interests match their reported abilities? In other words, if a student (N=225) indicated that he or she was most interested in language arts, did that student also select the abilities related to language arts such as writing poem, reading, and telling stories? We found the following for each talent area:

Talent Area	***r***	**Significance**
Leadership	.13	NS
Visual Arts	.40	.001

Science/Mathematics	.12	NS
Performing Arts	.36	.001
Language Arts	.25	.02
Psychomotor	.51	.001

Another question was, were the trained observers able to distinguish between interest and ability as they summarized student performance data in three different talent areas? The following correlation matrix for the performance-based summary data in talent areas assessed were significant at the .001 level:

	Interest				
Ability	Leadership	Visual Arts	Science/Math	Performing Arts	Language Arts
Leadership	.96	-.67	.65	-.55	-.47
Visual Arts	-.72	.92	-.48	.75	.62
Science/Math	.64	-.40	.96	-.59	-.67
Performing Arts	-.58	.69	-.61	.97	.74
Language Arts	-.50	.58	-.71	.73	.96

We then asked what is the relationship between self-reported interest and ability and observer-rated interest and ability?

Observer	**Self-Report Interest**				
Assessed	Leadership	Visual Arts	Science/Math	Performing Arts	Language Arts
Leadership	.11	-.35***	.41***	-.11	-.15
Visual Arts	-.04	.28**	-.34***	.08	.07
Science/Math	.03	-.27**	.33***	-.02	-.14
Performing Arts	-.03	.17	-.30**	.07	.12
Language Arts	-.12	.20*	-.30**	.12	.16

Note: .05*, .01**, .001***

Observer	**Self-Report Ability**				
Assessed	Leadership	Visual Arts	Science/Math	Performing Arts	Language Arts
Leadership	-.04	-.26**	.11	-.11	.13
Visual Arts	.05	.32**	-.13	.14	-.01
Science/Math	.01	-.1	.06	-.10	.10
Performing Arts	.05	.19	-.09	.15	.01
Language Arts	.03	.1	-.14	.20*	-.02

Note: .05*, .01**

Students who attended the Summer Youth Program were rated by their teachers in interest and ability in language arts, performing arts, and science/mathematics. We asked if the students' self-reported interests and abilities were related to teacher assessment. There were, however, no significant correlations. We further asked whether there was a relationship between teacher ratings of program performance and specific descriptors as reported by the observers. From our sample of 24 cases, we found only one significant correlation and it was negative (teacher rated student interest in language arts and the descriptor active/goal directed, -.43, $p \leq .05$).

Discussion

Now for the clouds. Any inferences we make at this time are tentative. It appears that there is a relationship between students' self-reported interests and abilities. That is, students who are interested in visual arts, for example, also reported being 'good' at activities in the visual arts. However, the self-reported interests and abilities don't always match those identified by observers. The exceptions were interest in visual arts ($r = .28, p \geq .01$) and mathematics/science ($r = .33, p \geq .001$) and ability in visual arts ($r = .32, p \geq .01$). From this, it appears that the visual arts might be a good starting point for performance assessment in identifying gifted and talented native Hawaiians.

Observers don't appear to discriminate between interest and ability when summarizing student performance so we found high correlations among these ratings. In the future, we will consider a single summary estimate that encompasses both interest and ability. Actually, the most helpful aspect of the summary sheets were the comments. Although these weren't used to select the students, they were used by the summer teachers to plan instructional activities and groups. An avenue for further research is how to use the comments in the selection procedure. We are also concerned with the reliability of the observers. In a concurrent study, Javier (paper in progress) is examining the interrater reliability of the observers using cases where two observers recorded data for the same student. To date, the reliabilities appear to be unacceptably low.

The clouds we have observed do have a silver lining. The Saturday observation experience has provided many preservice teachers with an opportunity to view native Hawaiian children as gifted and talented, consider individual differences in talents and abilities, and see textbook theories in action. The training includes information about gifted and talented students, instruction designed to match native Hawaiian preferred methods of learning, and issues related to Hawaiian education. The project has also provided enrichment activities for approximately 350 native Hawaiian students and opportunities to apply for additional learning experiences through the Center.

The long term goal of this project is to create a reliable and valid system of performance-based identification of native Hawaiian students which might then serve as a model for other underrepresented groups. From this analysis, it is clear that we have a long way to go. In examining

application data, performance assessment data and student achievement in the summer program, we have not found high correlations or been able to build a prediction equation.

References

California Assessment Program Staff, (1989). Authentic assessment in California. *Educational Leadership, 46* (7), 6.

Clark, B. (1992). *Growing up gifted* (4th ed.). Columbus, Ohio: Merrill Publishing Company.

Frasier, M. M. (1987). The identification of gifted black students: Developing new perspectives. *Journal for the Education of the Gifted, 10*, 155-180.

Gallagher, J. , & Kinney, L. (Eds.) (1974). *Talent delayed, talent denied, the culturally different gifted child.* Reston, VA: The Foundation for Exceptional Children.

Linn, R. L., Baker, E. L., & Dunbar, S. B. (1991). Complex, performance-based assessment: Expectations and validation criteria. *Educational Researcher, 20* (8), 15-21.

Miller-Jones, D. (1989). Culture and testing. *American Psychologist, 44*, 360-366.

Patton, J. , Prillaman, D., & VanTassel-Baska, J. (1990). The nature and extent of programs for the disadvantaged/gifted in the United States and Territories. *Gifted Child Quarterly, 34*, 96-96.

Renzulli, J., Reis, S., & Smith, L. (1981). *The revolving door identification model.* Mansfield Center, CT: Creative Learning Press.

Richert, E. S. (1987). Rampant problems and promising practices in the identification of disadvantaged gifted students. *Gifted Child Quarterly, 31*, 149-154.

Richert, E. S., Alvino, J., & McDonnel, R. (1982). *The national report on identification: Assessment and recommendations for comprehensive identification of gifted and talented youth.* Sewell, NJ: Educational Improvement Center.

Shalvelson, R. J., Baxter, G. P., & Pine, J. (1992). Performance assessments: Political rhetoric and measurement reality. *Educational Researcher, 21* (4), 22- 27.

State of Hawaii, Department of Education. (1988). *OCR survey*, (Research Rep.). Honolulu, Hawaii: Author

Stiggins, R. J. (1987). Design and development of performance assessments. *Educational measurement: Issues and practice, 6* (3), 33-42.

Tuttle, F. B., Becker, L. A., & Sousa, J. A. (1988). *Characteristics and identification of gifted and talented students* (3rd ed.). Washington D. C.: National Education Association.

Wiggins, G. (1989). Teaching to the (authentic) test. *Educational Leadership, 46* (7), 41-47.